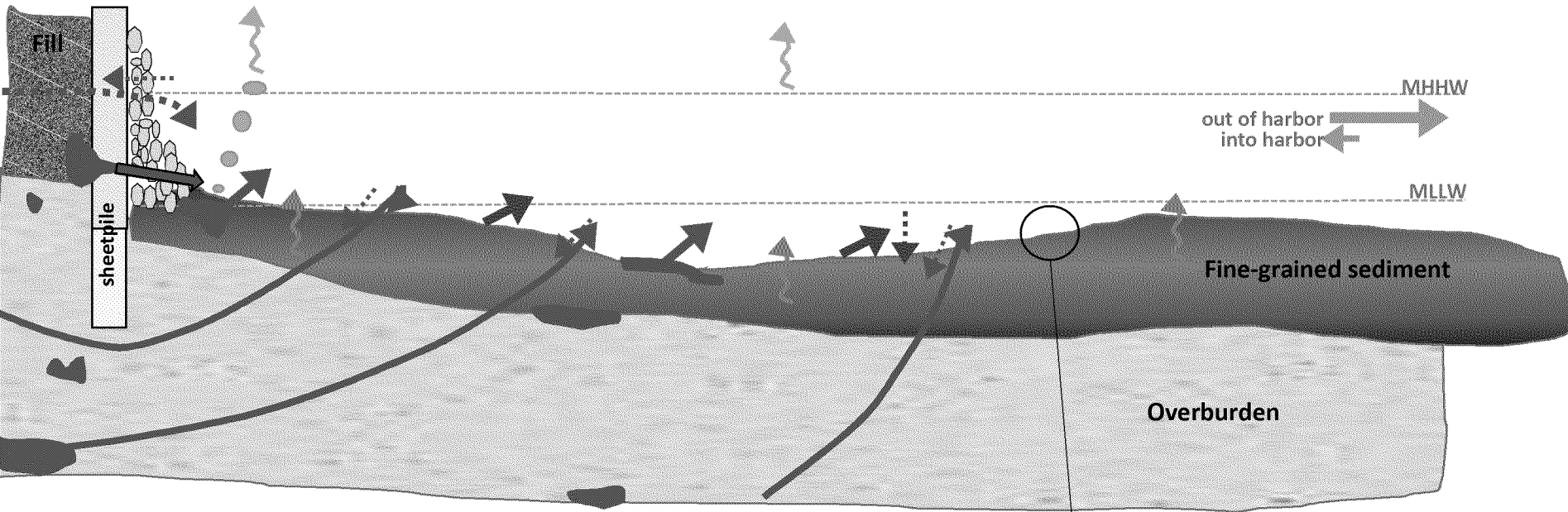


Conceptual Model of Contaminant Migration Pathways in a Shallow Tidal System



1) Direct migration of separate phase liquid (DNAPL)

2) Direct dissolution from DNAPL to surface water

3) Groundwater advection to surface water with associated dissolved phase contaminant flux (with potential for tidally induced reversal of flow)

4) Suspension of sediment-bound contaminants (with potential for re-deposition)

5) Diffusion from sediment to surface water

6) Facilitated transport through ebullition

7) Volatilization from water surface or exposed sediment

8) Transport of dissolved/particulate/surface film contaminants with surface water

Contaminant suspension/release rates at the sediment-water interface affected by

- currents and wave energy
- biologically active zone processes
- ice scour
- human-related physical disturbance